

Warm up

- 1) What is the ending electron configuration for the Earth Metal in the 3rd period?
- 2) What ionic charge will an element in the group 5A form?
- 3) What type of ion do metals in the A groups form?

Make sure to bring your lab notebooks for the next class. Next class you will write down your procedure, and then the lab is on the 18th for Red Days and the 17th for Black Days.

Polyatomic Ions

- Poly = more than one
- atomic = atom
- ion = +/- charge

Hence: polyatomic ion is a charged chemical species (ion) composed of two or more atoms covalently bonded

Common Polyatomic Ions			
$C_2H_3O_2^-$	acetate	OH^-	hydroxide
NH_4^+	ammonium	ClO^-	hypochlorite
CO_3^{2-}	carbonate	NO_3^-	nitrate
ClO_3^-	chlorate	NO_2^-	nitrite
ClO_2^-	chlorite	$C_2O_4^{2-}$	oxalate
CrO_4^{2-}	chromate	ClO_4^-	perchlorate
CN^-	cyanide	MnO_4^-	permanganate
$Cr_2O_7^{2-}$	dichromate	PO_4^{3-}	phosphate
HCO_3^-	bicarbonate	SO_4^{2-}	sulfate
HSO_4^-	bisulfate	SO_3^{2-}	sulfite
HSO_3^-	bisulfite		

Add these to your notes, and start memorizing them. You will not need to know them immediately, but you will be expected to know them soon.....

Ionic Compounds

- a molecule that forms from the combination of cations and anions.
- Compounds **MUST** have a neutral charge

Properties of Ionic Compounds

- high melting points
- when dissolved or melted, they will conduct electricity
- hard and brittle

Determining the formula of ionic compounds

First, ensure that you have a cation and an anion, if you have two of the same type, they will not form a compound..... why?

Then, figure out how many of each ion you need to produce a neutral charge.

Write the chemical formula with subscripts showing how many of each molecule you need.

Examples ("ide" indicates an anion)

sodium chloride

magnesium fluoride

aluminum nitride

potassium sulfide

Try these....

francium phosphide

barium selenide

aluminum bromide

Naming ionic Compounds

-Always state the cation first

-The anion name changes so as to end in "ide"

Examples of naming ionic compounds



Try these.....



Ionic Compounds with Polyatomic Ions

sodium acetate = $\text{NaC}_2\text{H}_3\text{O}_2$

calcium phosphate = $\text{Ca}_3(\text{PO}_4)_2$

ammonium oxide = $(\text{NH}_4)_2\text{O}$

Name these ionic compounds

Li_2SO_3

$\text{Cs}_2\text{Cr}_2\text{O}_7$

$\text{Ba}(\text{OH})_2$

Ionic Compounds with Transition Metals

iron (II) oxide

Roman Numerals tell you the charge of the transition metal

FeO

